

## EXECUTIVE SUMMARY

### Smith River Basin Permit and Change Applications Supplemental Environmental Assessment



The Department of Natural Resources and Conservation (DNRC) currently has under consideration 9 Applications for Beneficial Water Use Permits and 6 Applications to Change a Water Right in the upper Smith River basin. DNRC must decide whether to grant or deny each of these permits and changes. The permit applications are primarily for wells that would be used for irrigation. The change applications are primarily requesting changes in the place of irrigation to accommodate new sprinkler systems.

The supplemental Environmental Assessment (EA) has been prepared by DNRC to comply with the Montana Environmental Policy Act, which requires that cumulative impacts of proposed actions be analyzed. Cumulative impacts are defined in law as the collective impacts on the human environment of the proposed

action when considered in conjunction with other past, present, and future actions related to the proposed action by location or generic type. Because the proposed permits and changes are under consideration at the same time they must be evaluated together.

This EA will supplement the individual EAs that DNRC has completed, or will be preparing for each application or project. EA checklists have been completed for 4 of the pending applications. EA checklists are simply a shorter form of a regular EA. The information contained in this supplemental EA will be used to revise these EA checklists. The information in this supplemental EA also will be used when preparing the individual EA checklists for each of the remaining 11 applications prior to the publication of the applications. In the individual EA checklists, impacts specific to the projects and alternatives to the proposed projects will be examined.

### ***Background of Water Rights in Montana***

Water rights in Montana are guided by the Prior Appropriation Doctrine, that is, first in time is first in right. A person's right to use a specific quantity of water depends on when the use of water began and the extent of the water use. The first person to use water from a source established the first right, the second person could establish a right to the water that was left, and so on. During dry years, the person with the first right has the first chance to use the available water to fulfill their right. The holder of the second right has the next chance. No preference is given to any particular type of water use.

The 1993 Montana Legislature closed the upper Missouri River basin including the Smith River basin to new surface-water permits. DNRC may not process or grant permits in this area with some exceptions for ground water and non-consumptive uses. The law defines ground water as water that is beneath the land surface or beneath the bed of a stream, lake, reservoir, or other body of surface water and that is not immediately or directly connected to surface water.

### ***Basis of Decision***

This EA covers a wide range of potential impacts. The decision to grant, modify or deny a permit or authorization to change is always based only on the criteria found in section 85-2-311, MCA or section 85-2-402(2), MCA respectively.

### ***Who wrote the EA?***

An interdisciplinary team made up of DNRC staff including surface-water and ground-water hydrologists, an economist and a water resources specialist wrote the EA.

### ***Public Concerns***

The public was notified that DNRC would be preparing this supplemental EA through newspaper articles, letters sent out to concerned parties and through a public meeting held in White Sulphur Springs. DNRC heard many comments at the public meeting and also received many letters commenting on the cumulative impacts of the 15 applications. By reviewing these comments the DNRC team identified the following broad areas of concern to be studied as cumulative impacts in the EA:

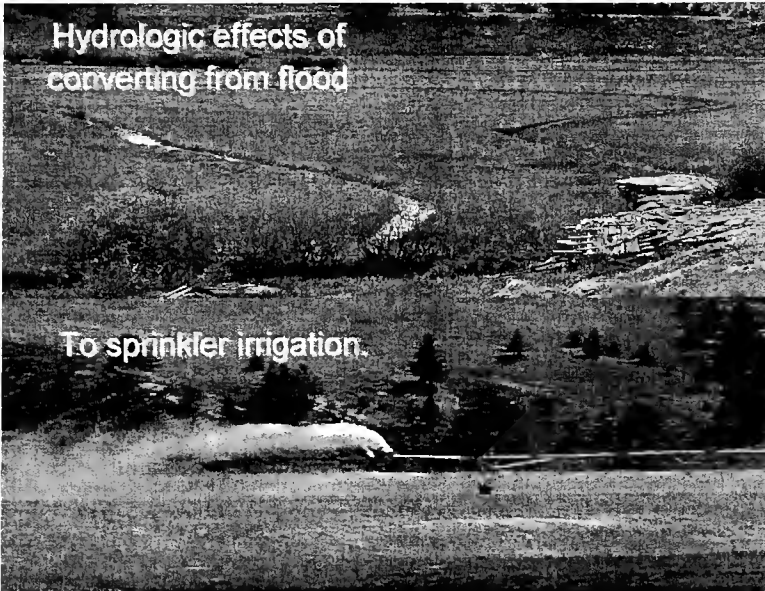
- Land Use: Irrigated Lands & Irrigation Practices
- Ground Water
- Surface Water
- Water Quality
- Fisheries
- Economic Impacts – Agriculture, Recreation, Hydropower, Taxation, Socioeconomics

### ***Summary of Effects***

The DNRC team studied how the proposed applications and possible future projects would impact the resources listed above. Following is a summary of the impacts, although the EA itself should be read for a full understanding of the impacts.

#### *Land Use: Irrigated Lands and Irrigation Practices*

Existing irrigated lands stand to be moderately affected by the proposed projects. The projects represent an increase in irrigated acres in the basin. Even though some of the applicants' irrigated acres would increase, this increase must be weighed against the probability that acres irrigated by

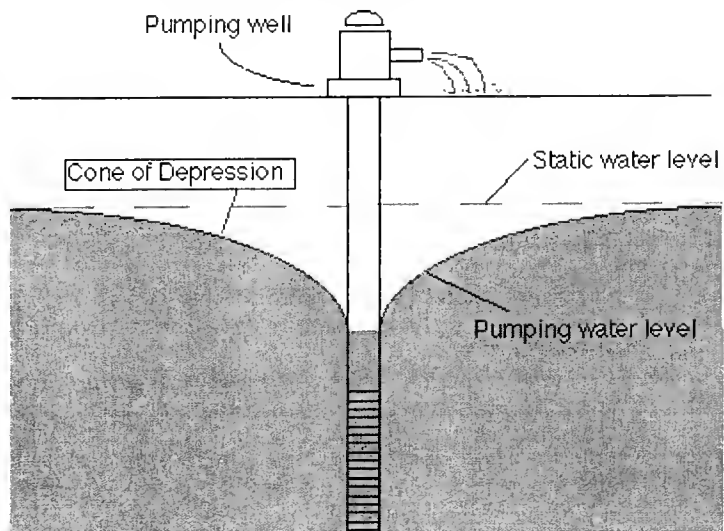


existing irrigators would at times be diminished. During dry years, the proposals would impact the ability of other existing irrigators to effectively irrigate all of their irrigated acres because of decreased streamflow.

Existing irrigators have valid water rights that are protected private property rights. Under the Prior Appropriation Doctrine the impact to these private property rights must be given great consideration.

#### *Ground-Water Resources*

In general, pumping a well lowers ground-water levels in an expanding circular area around a well called a cone-of-depression. When this cone-of-depression reaches another well, the static water level in that well is reduced. Whether the resulting effect on a nearby well is significant depends on whether the water column in the well is reduced sufficiently to effect production from the well. Individual projects can cause significant impacts, depending on site-specific conditions and locations of nearby wells. Closely spaced wells also can cause significant cumulative impacts if the cones-of-depression of more than one well add together. In the case of the proposed projects in the Smith River basin, the overlap of the cones-of-depressions of individual wells is expected to be minor because of the relatively large distances between wells. Therefore, although individual wells might have significant impacts on nearby wells, the cumulative impact to existing ground-water users by the proposed projects is rated minor adverse. The significance of the impacts of individual projects on nearby wells is assessed in individual EA checklists.



### *Surface-Water Resources*



DNRC predicts a moderate decline in streamflows due to the cumulative effects of the proposed projects. Ground-water pumping for the proposed new permit projects would decrease streamflows by reducing the amount of ground water that flows from the aquifers to the streams. As a result of the change applications, flood irrigation systems would be converted to center pivot sprinklers and irrigated lands would be expanded. The result would be decreased streamflows, especially during late summer,

because crop water use would increase and irrigation return flows would decrease. The potential for reduced later-summer flows in the Smith River and its tributaries is a concern because water shortages already occur during the late summer of dry years.

### *Water Quality*

Minor beneficial impacts to water quality are expected to occur for the reason that irrigation return flows, which can contain nutrients and salts, would decrease. These beneficial impacts would be offset to some degree by the potential for higher water temperatures and lower dissolved oxygen concentrations due to decreased streamflows.

### *Fisheries*

The projects present a moderately adverse impact to the fishery. Reduction in streamflows would reduce fish habitat in the Smith River and some of its tributaries. The reduction in streamflows occurring between July and September are most damaging to fish because streamflows are already low during these times. Less water means less fish habitat, increased water temperatures and an increased need by fish for oxygen in the water. All of these things combined mean fewer fish can survive in the streams and rivers as the streamflows are further decreased during these critical times.

### *Economic Impacts – Agriculture, Recreation, Taxation, Socioeconomics & Hydropower*

The projects are expected to have a range of economic impacts. Some would be minor adverse impacts while others would be minor beneficial impacts. The economic impacts are divided into 5 categories.

### *Agriculture*



Farmers and ranchers putting in the new projects would experience an increase in crop production. Other irrigators may experience lower production due to the negative impacts to streamflow. The projects would increase costs due to purchasing and operating the new irrigation systems. When changing from flood to sprinkler irrigation, labor costs would be reduced.

### *Recreation*

Recreational fishing and the associated economic benefits would experience minor adverse impacts due to the projects. The negative impacts to the fishery would decrease economic benefits associated with recreational fishing.

Opportunities for floating the Smith River later in the summer and into the fall would decrease due to the decreased ground water return flows from flood irrigation and to decreased flows due to increased water use by the projects. This is considered a minor adverse impact.



### *Taxation*

Overall the projects would create a minor adverse impact to property taxes collected. Because of the tax structure, fewer taxes would be collected on irrigated lands than on the same number of acres of dryland hay.

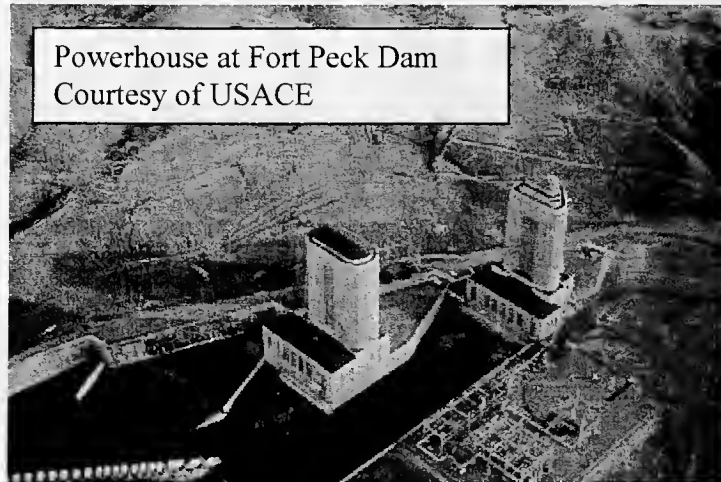
### *Socioeconomics*

Because the increase in crop production due to the projects would at times be offset by lower production by other ranchers and farmers it is difficult to gage an impact to the local economy. The projects would have minimal impacts on population, employment and income in the area.

### *Hydropower*

There would be a minor adverse impact to hydropower production because of the projects. The downstream hydropower generation dams at Great Falls and Fort Peck would generate less electricity due to decreased streamflows. The electricity that no longer would be produced could be worth as much as \$71,025 annually. The actual dollar amounts would likely be somewhat less because there is no guarantee that all the

water used by the new projects, absent their development, would reach the dams. Some of the water at times would be used by other irrigators or otherwise be lost from the river system.



### *Information and Conclusion*

This Executive Summary of the EA is intended to be a concise and easy to understand summary of the EA. The EA contains a more complete description of the proposed projects, the existing conditions or environment, the impacts to the existing environment, and the methods used to determine these impacts. It also has appendices containing more specific information regarding the specific projects, methodologies, analysis, monitoring and baseline information that was used in the development of the EA. The EA including its appendices will be available on the web at [www.dnrc.state.mt.us/smitheriverarea.htm](http://www.dnrc.state.mt.us/smitheriverarea.htm).

Because the conclusions reached in the EA required technical procedures and terminology, the entire EA, including its appendices, would be needed for any scientific, technical or legal review. The EA and its appendices will be sent to the people and organizations that have requested the documents. They will also be sent to all parties directly involved with the pending applications.

DNRC has determined from the analysis in the EA that no significant adverse cumulative impacts would occur as a result of the proposed projects. Because of this determination no further study of the cumulative impacts is needed. The EA will now be used in the revision or completion of EA checklists for the individual projects or applications. The individual EA checklists will contain a preferred alternative for each project and will also contain a determination of the significance of any adverse impacts associated with the specific projects.



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